

Claims

1. A seed tape (1) including successively arranged germinating units (1a, 1b, 1c), and which further includes at least one carrier strip (3) as well as at least one
5 auxiliary layer (5) biodegradable, flexible, non-woven or film-like material arranged on said carrier strip, whereby said auxiliary layer (5) is optionally locally interrupted a short distance along the seed tape (1), and whereby each germinating unit (1a, 1b, 1c) includes a mixture (6) of granulated carrier, at least one granulated additive and optionally an adjuvant in addition to one or more seeds (7), said mixture (6) plus the
10 seed(s) being kept together to form at least one core portion (8) in the germinating unit, as well as whereby said seed tape can optionally be cut into separate germinating units prior to the irrigation and/or the bedding out, **characterised in**, that the core portion (8) made of said mixture (6) includes locally adhered bicomponent fibres (18) of one or more thermoplastic materials which form a coherent, open network (8a) for keeping the granules (6a) of the mixture (6) and optionally also one or
15 more seeds (7) together.

2. A seed tape according to claim 1, **characterised in**, that the thermoplastic material(s) of the bicomponent fibres (18) is/are biodegradable.
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3. A seed tape according to claim 1 or 2, **characterised in**, that the bicomponent fibres (18) forming the network (8a) are of the coaxial type where the outer component (18a) of the fibre presents a lower melting point than the inner component (18b) of the fibre, preferably in such a manner that the outer component (18a)
25 presents a melting point of approximately 110 to 130°C, and the inner component (18b) presents a melting point of approximately 160 to 300°C.

4. A seed tape according to claim 1, 2 or 3, **characterised in**, that the seed (7a) is placed in an incision (10) in the core portion (8), said incision (10) preferably being
30 ing of a depth (d) of 25 to 50%, especially 33 to 40%, of the thickness (t) of said core portion (8).

5. A seed tape according to claim 3, **characterised in**, that the outer component (18a) of each bicomponent fibre is made of polylactide (derived from lactic acid) (PLA) having a relatively low melting point whereas the inner component of
5 said fibre is made of polylactide (derived from lactic acid) (PLA) having a relatively high melting point.
6. A seed tape according to one or more of the claims 1 to 5, **characterised in**, that one component (18a) of each bicomponent fibre (18) is made of polyethylene
10 (PE) having a relatively low melting point, whereas the other component (18b) of said fibre is made of polypropylene (PP) or polyester (PET) having a comparatively higher melting point.
7. A seed tape according to one or more of the claims 1 to 6, **characterised in**,
15 that each bicomponent fibre (18) is of a length of 0.1 to 6.5 mm, preferably 0.2 to 3.5 mm, especially 1 to 2 mm, and a fineness of 1 to 5 Decitex, preferably 3 Decitex.
8. A seed tape according to claim 4, **characterised in**, that the incision (10) forms an angle (\underline{v}) of 40 to 65°, such as 45 to 55 °, with the longitudinal axis (A) of
20 the seed tape.
9. A seed tape according to one or more of the claims 1 to 8, **characterised in**, that the incision (10) is substantially Z-shaped.
- 25 10. A seed tape according to one or more of the claims 1 to 9, **characterised in**, that the carrier strip (1) is made of a biodegradable material, such as paper, preferably paper of a weight of 20 to 50, especially 25 to 35 g/m², and is optionally permeable to gas.

11. A seed tape according to one or more of the claims 1 to 10, **characterised in**, that the auxiliary layer (5) is permeable to gas and for instance made of thin paper.
- 5 12. A seed tape according to one or more of the claims 1 to 11, **characterised in**, that the carrier (1) is a granulated vermiculite, where less than 2% of the vermiculite are of a grain size of up to 0.4 mm and the remaining percentages are of a grain size of 0.25 to 4 mm, or the carrier is a Leca-like material (Leca is a registered Trade Mark) or a fibre-like material, such as stone or mineral wool fibres or cellulose fibres, in particular coarse cellulose fibres, and that the additive includes a superabsorbing polymer (SAP) in form of a polymer based on starch or cellulose or acrylate.
- 10 13. A seed tape according to one or more of the claims 1 to 12, **characterised in**, that the carrier strip (3) and/or the auxiliary layer (5) are made of a thermoplastic material, such as polypropylene or polylactide (derived from lactic acid) (PLA), said material preferably being of a weight of 15 to 30 g/m², especially 18 to 22 g/m², in particular 20 g/m².
- 15 14. A seed tape according to one or more of the claims 1 to 13, **characterised in**, that the core portion (8) including the bicomponent fibres is fastened to the carrier strip (3) and/or the auxiliary layer (5) by using the adhesiveness of said bicomponent fibres (18) and/or by means of glue.
- 20 15. A seed tape according to one or more of the claims 1 to 14, **characterised in**, that the auxiliary layer (5) is a glue layer which on the outer side covers the core portion.
- 25 16. A seed tape according to one or more of the claims 1 to 15, **characterised in**, that the bicomponent fibres (18) of polylactide (derived from lactic acid) (PLA) form 4 to 9, especially 7 to 8% by weight of the mixture (6), whereas the superab-
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sorbing polymer (SAP) forms 1 to 7% by weight, especially 2.5% by weight of the mixture, and the rest is for instance vermiculite or wooden dust.

17. A seed tape according to one or more of the claims 1 to 16, **characterised**
5 **in**, that at least the mixture (6) including the bicomponent fibres (18) has been subjected to a short heating to no more than approximately 125°C, such as by means of ultrasound or hot air before it is inserted in the seed tape.

18. A seed tape according to one or more of the claims 1 to 17, **characterised**
10 **in**, that the bicomponent fibres (18) of the core portion and optionally also the carrier, the additive and the adjuvant, if any, have been placed on the carrier strip (3) by means of air.

19. A seed tape according to one or more of the claims 1 to 17, **characterised**
15 **in**, that each core portion including the bicomponent fibres is provided by heating a mixture of bicomponent fibres, carrier, additive and adjuvant, if any, and followed by a cooling thereof so as to form a "rod", each core portion (8) then being cut off said "rod".

20. A seed tape according to one or more of the claims 1 to 19, **characterised**
20 **in**, that the seed(s) (7) or the granules of the mixture have been placed on the carrier strip (3) or in the core portion (8) by said seed(s) or granules being magnetized through a coating and thereby being attracted to the carrier strip (3) or the core portion (8) by means of small lumps or stripes of permanent-magnet-powder, such as
25 strontium-barium-ferrite powder, optionally titanium dioxide and barium ferrite powder, arranged on said carrier strip or on said core portion.

21. A seed tape according to claim 20, **characterised in**, that the coating used
on the seed(s) or the granules include starch, such as paste, or polymers as well as
30 magnetic powder in form of iron powder for instance of a grain size of 17 to 23 μm , especially 20 μm , plus possible insecticides, fungicides or other adjuvants.

22. A method according to one or more of the claims 1 to 20, **characterised in**, that the carrier has been microencapsulated before it is placed in the core portion (8).
- 5 23. A seed tape according to one or more of the claims 1 to 22, **characterised in**, that the length (a) of the core portion (8) including the bicomponent fibres (18) is smaller than the width (b) of the carrier strip (3), said length (a) preferably being maximum 80% of said width (b).
- 10 24. A seed tape according to one or more of the claims 1 to 23, **characterised in**, that the bicomponent fibres (18) and/or the carrier strip (3) and/or the auxiliary layer (5) is made of a polymer based on starch or cellulose or acrylate.
25. A seed tape according to one or more of the claims 1 to 24, where the carrier
15 strip (3) is made of paper, a second carrier strip not shown is made of PLA, and an auxiliary layer (5) is made of paper or PLA, **characterised in** that the auxiliary layer (5) is secured to the PLA carrier strip by means of a pressure-sensitive or heat-sensitive glue, which has been applied onto the auxiliary layer in advance.
- 20 26. A seed tape according to one or more of the claims 1 to 25, **characterised in** that the individual germinating units are separated by means of at least one perforated line (45), preferably two relatively closely arranged perforated lines.
27. A seed tape according to one or more of the claims 1 to 26, **characterised**
25 **in** that each core portion (8) includes a recess in which one or more seed(s) (7) is/are placed, where said seed(s) can be retained by means of glue or magnetic particles.
28. A seed tape according to one or more of the claims 1 to 27, **characterised**
30 **in** that in the areas opposite the core portions (8) said seed tape presents a thickness of 6 to 15 mm, preferably 7 to 9 mm.

29. A web to be cut into juxtaposed seed tapes according to the invention, said web including a carrier strip (30) of PLA and an auxiliary strip (50) of paper before it is subjected to the cutting procedure, and where a row of core portions (8) are provided between said strips, said web being **characterised in** that the carrier strip (30)
5 and the auxiliary strip (50) with the core portions (8) therebetween are such that the auxiliary strip (50) includes at least one longitudinal rim area parallel to longitudinal edges of the carrier strip (30) and projecting beyond at least one of said edges, and that at least one marker opening is shaped in said rim area opposite each row of core portions, said marker opening preferably being square and produced by way of
10 punching.